

## Wildland Firefighters and Injury Recovery

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### Abstract

Wildland fire suppression represents a high-risk environment. On the line, we are exposed to such things as erratic fire behavior, rough terrain, falling snags, and sharp tools. Each of these has the ability to hurt or even kill us as a worst case scenario. We are also exposed to hazards and possible injury when doing any of the other duties which we are assigned, be it project work or even PT. Firefighters tend to share many traits in common, one of these being a proclivity towards an active and busy lifestyle. By taking part in strenuous physical endeavors off the job, we also open ourselves up to the possibility of injury.

If an injury should occur, the person must not only cope with the physical impact of the injury, but also psychological and environmental effects as well. How effectively she/he is able to do this will often determine the effectiveness and the speed with which full recovery takes place. Since firefighters share many traits in common with athletes, much of what has been learned in the world of sport psychology regarding injuries can be of use to us. Strategies and tactics for dealing with injury, be they incurred by you or someone you work with, are discussed. The more we know about how injuries impact us and what we can do to best deal with them, the better prepared the firefighter will be should an injury occur.

### Introduction

Wildland fire suppression represents a high-risk environment. Fires, by their very nature, can be dangerous and unpredictable. On the line, we are exposed to such things as erratic fire behavior, rough terrain, falling snags, and sharp tools. Each of these has the ability to hurt or even kill us as a worst case scenario. However, we are not just at risk on the fireline. We are also exposed to hazards and possible injury when doing any of the other duties which we are assigned, be it project work or even PT. The list of possible injuries and ways to be injured is long.

Firefighters share many traits in common, one of these being a tendency towards an active and busy lifestyle. Be it skiing or snowboarding, mountain biking, rock climbing, kayaking, hunting, or running, as a group we tend to be drawn to activities that allow us to be physically challenged. While such ventures help us to stay in shape and recreate simultaneously, they also carry with them a potential cost. By taking part in strenuous physical endeavors we open ourselves up to the possibility of injury. At some point in our lives, most of us have probably incurred an injury that has been significant enough to curtail our normal routine. In other words, firefighters come in two models: those who have been injured, and those who have not been injured *yet*.

Obviously, any injury results in physical damage to the body. The physical impact of any injury is directly related to its severity. For example, a sprained ankle will probably not require any specialized medical assistance. Through ice treatments, elevation, and

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rest, the swelling in the ankle will eventually subside enough to allow greater range of motion. Typically, in a few days the injured person will be able to resume daily activities, albeit at a much slower rate. As the injury heals, the person will begin resuming functions that he/she was doing prior to the injury.

Conversely, a fractured femur will necessitate a great deal of medical intervention. Surgery might be in order to pin or screw the bone back together. Physical therapy will be needed to re-build lost muscle mass and to maintain range of motion in other parts of the body. A long period of rehabilitation will be necessary before the body is fully healed. The person with a sprained ankle might only miss a few days of work, if any. However, the person with the femur fracture will be out for weeks, maybe even months. If the fracture is severe enough, that person might be faced with the prospect of never again being at the level of mobility which he/she was at prior to the injury. Obviously, one of these injuries produces much more of a physical impact upon the body than the other.

Aside from the physical effects, injuries also have an impact upon the psychological functioning of individuals. Normal routines now become disrupted due to the injury. Things that could be done before without even thinking are now not possible, or only possible in a limited way and with pain as a constant reminder. Psychologically, injuries may lead to such things as self-doubt and a loss of confidence. Anger, depression, confusion, and apathy are other possible psychological impacts of injury, all of which can lead to decreased performance on the fireline.

Environmental factors also come into play when a person has been injured. Support systems (friends, family, team members) that were in place before the injury might not be available, either because they do not know how to help or they simply choose not to. The stabilizing affect of being a member of a team may vanish as the injured person is left to recover on her/his own while the rest of the team continues with the fire season or regular work activities.

Therefore, the injured person must not only cope with the physical impact of the injury, but also the psychological and environmental effects as well. How effectively he/she is able to do this will often determine the effectiveness and the speed with which full recovery takes place. Since firefighters share many traits in common with athletes, much of what has been learned in the world of sport psychology regarding injuries can be of use to us.

### **How can Sport Psychology Help Firefighters Deal with Injury?**

Sport psychologists (SP's) have for years been interested in the impact that injury has upon the overall functioning of athletes. Over thirty-five years ago Suinn (1967) became one of the first SP's to suggest that athletes cope with injuries in basically the same way that any person faced with physical impairment or significant loss does. He proposed a chain of possible reactions to the injury, including initial shock, denial of the injury or its severity, depression or anxiety once the injured person understands the severity/impact of the damage, and finally partial or complete acceptance of the injury.

Other SP's have elaborated upon these findings, and have suggested that athletes often experience a grieving process when an injury leads to temporary or permanent loss of their athlete identity (Rotella 1984; Astle 1986; Rotella and Heyman, 1986). This grieving process follows the stages outlined by Kubler-Ross in her famous work from

1969, *On Death and Dying*. From her work with those who had experienced the death of a loved one, Kubler-Ross identified a series of stages that people often move through, including denial of the death, anger, bargaining, depression, and lastly acceptance of the death as a permanent condition.

Subsequent research by others has suggested that stage models (like Kubler-Ross') might not represent the way a typical athlete responds to injuries that result in temporary physical impairment. Their findings have suggested that athletes will usually experience a brief period of mood disturbance (marked by increased tension, depression, anger, and decreased levels of vigor) after an injury has taken place, but that these individuals return to normal when they believe that they are on the road to recovery (McDonald and Hardy 1990; Smith et al. 1990). Grief reactions similar to those outlined by Kubler-Ross may very well occur for those athletes who have suffered career-ending injuries, but research does not firmly support this notion at this time.

According to the research from some SP's, feelings of loneliness and separation can also occur after an injury (Crossman and Jamieson 1985; Lewis-Griffith 1982). Teams do many things for those who are on them, and one of the most important features that a team provides for its members is a social support system. If an injury should curtail a person's ability to practice or participate with the team, this support network can be disrupted. Injured individuals may begin to feel like they are no longer a contributing member. They may disengage from the other team members, even though it is at this time that the injured person most needs the support. Likewise, other non-injured team members might pull back, not knowing what to say or do for the injured person.

Injuries can also lead to stress and anxiety. The injured person may be faced with nagging questions: Will I recover from this injury? What am I missing out on that everybody else on the team gets to experience? Can I possibly re-injure myself? What happens if I do not heal properly? How much money am I missing out on by being injured? Since the answers to these questions are often difficult to come by, anxiety results. With so many unknowns, the injured person might begin thinking about "worst case" scenarios. With this resulting anxiety, injured individuals might attempt to come back too soon, before the injury has had a chance to fully heal. Now, their performance may suffer, either because he/she cannot meet the physical demands of the task at hand, or because he/she is so worried about re-injury that their overall situation awareness decreases. Both are recipes for negative things to happen.

### **Injury Warning Signs That Shout "Watch Out!"**

Just as we have tactical "Watch Out" situations for the fireline, a similar type of list can be used regarding injury. Sport psychologists (Petipas and Danish 1995) have come up with a list of warning signs that might be evidence of problematic adjustment for the injured athlete. This list has been modified so that it applies more directly to wildland firefighters.

- Evidence of anger, depression, confusion, or apathy
- Obsession with the question, When will I be able to fight fire again?
- Denial, reflected in remarks such as, "Things are going great," "The injury is no big deal," or other comments that lead you to believe that the firefighter is making an extraordinary effort to convince you that the injury does not really matter.
- A history of coming back too fast from injuries.

- Exaggerated storytelling or bragging about accomplishments either on or off the fireline.
- Dwelling on minor body complaints
- Remarks about letting other team members down, or feeling guilty about not being able to contribute.
- Withdrawal from teammates, other firefighters, supervisors, friends, or family.
- Rapid mood swings or striking changes in affect or behavior.
- Statements that indicate a feeling of helplessness to impact recovery.

### **Tips on How to Deal with Injury**

If you, as the injured person, are experiencing some of the following thoughts or actions (or if you see an injured team member acting/thinking this way), it might suggest difficulty in dealing with an injury. What follows are some general suggestions on how to handle an injury should it occur.

- Although it might seem overly simplistic, the best way to deal with an injury is to avoid becoming injured in the first place. Years of research by sport psychologists suggest that a combination of conditions put athletes at greater risk of injury: negative life stresses, an increase in daily hassles, previous injuries, and poor coping resources. How, you might ask? The combination of these four factors results in what psychologists call an *elevated stress response*. According to Brown (2005), this response leads to such things as increased muscle tension, increased distractibility, and a narrowing of attention so that the athlete is not as aware of or responsive to critical events or cues. Major life stresses include such things as the breakup of a relationship, the death of a loved one, loss of a job, or simply moving. Daily hassles are minor problems and irritations that disrupt one's normal routine. Both can increase the likelihood of injury. The probability of injury also increases if the person who has been previously injured attempts to come back to work before the injury is fully healed. Even if fully healed from the injury, the chance for reinjury increases if the person is not psychologically ready to return (either because the athlete tenses other muscles to protect the injury or because he avoids situations that he considers threatening to the injury). Poor coping resources include such things as a lack of stress management skills, unhealthy life habits, and little or no social support. **Awareness is the key.** If you are experiencing major life stresses, or even an increase in daily hassles, realize that you are at an increased risk for injury. Likewise, if you are attempting to come back too soon from a previous injury, understand that you are prone to reinjury. And lastly, if you have poor coping resources, you also run the risk of being injured. The good news is that you can improve on such things as stress management and relaxation. You can adopt more healthy life habits, by doing such things as eating well, drinking less alcohol, and getting more sleep. And, you can work at developing and maintaining a solid social support network to help you through difficult times.
- Follow the Emergency Medical Technician (EMT) mantra "Scene safety, scene safety, scene safety!" If you've been hurt, make sure that the area is safe enough that you or someone else will not be at risk for further injury.
- If the injury has happened at work, be it on the fireline or elsewhere, get the appropriate paperwork filled out (CA-1, CA-2, witness statements, etc.). Those who

work government agencies know how important this step is. Talk with your supervisor, a personnel officer, or the administrative person who deals with injuries. Even if you think it's only a minor injury, get the paperwork filled out. Often times what we might believe is not a significant injury can turn out to be much more serious than we originally thought it to be. Firefighters tend to be "pull yourself up by your own bootstraps" kind of people. We can have a tendency to want to keep personal issues to ourselves. Try not to do this with injuries. If you think you need help, get it.

- Get copies of everything associated with your injury (e.g., government forms, medical evaluations, leave slips, doctor's reports, etc). Create a folder for these materials, and keep it somewhere safe and where you can access it quickly.
- Utilize your support structure to help you. This includes family, friends, team members, and anyone else who can be of assistance in this challenging time. Try not to pull away from those who can help you. Stay involved with the team, no matter how tough this is to do. As firefighters, we are often closer to our teammates than we are to even our own families. For months on end we travel, eat, sleep, and recreate together. Utilize co-workers to help in your recovery. If the injury has occurred to a team member, do what you can to be there for this person. Keep them up to date on what has been happening. Call them. Let the person know that you are thinking of them and are looking forward to when they can return to work.
- Keep in mind the stages model of injury recovery. You might find yourself being angry, or depressed, or in denial about the injury. That is entirely normal. The key is to realize that recovery can be a long process. Strive towards acceptance of the injury. Once you are at this point, you can begin to work towards what you need to do for recovery.
- Set attainable goals during your rehabilitation. Goals that emphasize effort and steady improvement will be better than goals that set a specific time frame for return. If the doctor tells you that your injury will take 4-6 weeks to heal, then that's how long it will take. Doctors are the experts in this area. Resist the temptation to come back sooner because you think you are sufficiently healed. By doing this you greatly increase the risk of possible reinjury.
- Commit to your rehabilitation program. If a doctor or physical therapist has developed a rehab program for you, stick to it. Although this might seem like a no-brainer, research shows that actual adherence rates range between 40 and 91 percent. In other words, in some cases only 4 out of 10 injured athletes followed the rehabilitation program that was developed for them. Again, trust the professionals who deal with injured athletes on a daily basis.
- Be ready to answer questions from others about what happened, how the injury occurred, its severity, etc. People are curious beasts. Believe me, they'll ask. Even if you aren't too comfortable talking about it, have some sort of "pat answer" you can tell people. If you are comfortable talking about the injury, then go for it. The quicker you can accept the fact that you are injured, the faster you will take the steps needed (physically, psychologically, and environmentally) to get healed.
- Attempt to look at the opportunities the injury might provide, instead of focusing on the negatives. The world of fire suppression has many moving parts. If you cannot go out on the line with the crew, find a place where you can be of assistance. Learn

about other areas of the organization that you are not as familiar with. Find something which allows you to feel like you are making a positive contribution. Lastly, use the time off as an opportunity to focus on other aspects of your life that may have been put on the back burner due to the busy schedule demands of being a wildland firefighter.

- Get educated about your injury. Learn everything that you can about it- its nature, what to expect in the course of dealing with it, the rationale and the goals of rehabilitation, risks and benefits of various treatment options, and probable outcomes and expectations. With the amount of information that is available with a simple Google search, there is no reason not to. Also, ask your doctor/care provider for input, or talk with others who have had a similar injury. Information is power. The fewer the unknowns, the better.
- Stay in shape, if at all possible. As firefighters, we invest a great deal of time and energy into our physical conditioning. Much of our confidence and self-assuredness comes from knowing that we are generally in pretty good condition. Even with an injury, one can usually continue to work out other parts of the body. Granted, this will depend on the magnitude of your injury or injuries. If they are severe enough, you might not be able to do anything but rest and recuperate. However, if you have just broken your arm, there are still many things you can do to stay in shape (i.e., lifting weights with the lower body, running/jogging, Stairmaster, etc. If you have a lower extremity injury, you can still focus conditioning/training efforts on the upper body. Even doing a little will help your self-confidence. Obviously, you will want to check with your doctor or care provider regarding what you should and should not do during your recovery.
- If you have tried the above tips and are continuing to have a difficult time dealing with the injury or the stress that comes with it, it might be time to seek out a mental health professional. Employee Assistance Programs (EAP's), or their equivalent, offer professional, confidential services to all federal employees, and they are free of charge. If you are a state, local, or contractor-type employee, find out what forms of assistance are available to you, if any. If you do not know, check with your personnel office or Human Resources department. Be an informed consumer. Utilize those professionals, be they counselors or even sport psychologists, who specialize or at least have a good background in helping athletes deal with injury.

In the quest for Optimal Performance on the fireline, injuries have the ability to affect firefighters in all three performance areas: physically, psychologically, and environmentally. Therefore, the more we know about how injuries impact us and what we can do to best deal with them, the better prepared the firefighter will be should an injury occur to us or one of our teammates.

### References

- Astle SJ (1986) The experience of loss in athletes. *Journal of Sports Medicine and Physical Fitness* **26**, 279-284.
- Brown C (2005) Injuries: the psychology of recovery and rehab. In 'The sport psych handbook'. (Ed. S Murphy) pp. 215-235. (Human Kinetics: Champaign, IL)

- Crossman J, Jamieson J (1985) Differences in perceptions of seriousness and disrupting effects of athletic injury as viewed by athletes and their trainers. *Perceptual and Motor Skills* **61**, 1131-1134.
- Lewis-Griffith L (1982) Athletic injuries can be a pain in the head too. *Women's Sports* **4**, 44.
- McDonald SA, Hardy C J (1990) Affective response patterns of the injured athlete: an exploratory analysis. *Sport Psychologist* **4**, 261-274.
- Petipas A, Danish S J (1995) Caring for injured athletes. In 'Sport psychology interventions'. (Ed. SM Murphy) pp. 255-281. (Human Kinetics: Champaign, IL)
- Rotella R J (1984) Psychological care of the injured athlete. In 'Sports psychology: psychological considerations in maximizing sport performance'. (Ed. L Bunker, RJ Rotella and AS Reilly) pp. 273-288. (Mouvement: Ithaca, NY)
- Rotella RJ, Heyman SR (1986) Stress, injury, and the psychological rehabilitation of athletes. In 'Applied sport psychology: personal growth to peak performance'. (Ed. M Williams) pp. 343-364. (Mayfield: Palo Alto, CA)
- Smith AM, Scott SG, O'Fallon W, Young, ML (1990) The emotional responses of athletes to injury. *Mayo Clinic Proceedings*, **65**, 38-50.
- Suinn RM (1967) Psychological reactions to physical disability. *Journal of the Association for Physical and Mental Rehabilitation* **21**, 13-15.

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For the past sixteen seasons, Charles Palmer has worked in fire suppression, the first six of those years with the Bureau of Land Management in Miles City, Montana, and the last decade with the U. S. Forest Service's Missoula (Montana) Smokejumpers. Currently, he works as an instructor with Mission-Centered Solutions, teaching both L-380 Fireline Leadership and L-381 Incident Leadership. He earned his B. A. (1988) in psychology from the University of Montana, as well as M. A. (1991) and Ed. S. (1995) degrees in School Psychology from UM. Charlie worked as a School Psychologist for the Colstrip (MT) Public Schools from 1991-1994. In 2002, he completed his doctorate (Ed. D.) in Educational Guidance and Counseling, with an emphasis in Sport Psychology from the University of Montana. For three years he worked with the New York Giants, doing psychological assessment of the top college football players in the nation. Currently, he is affiliated with Human Resource Tactics, an assessment and testing consortium which serves seven NFL teams. Charlie is president and CEO of FirePsych Consulting, a company which seeks to incorporate the tactics and principles of sport psychology into the world of wildland fire suppression.